

PATENT COOPERATION TREATY

PCT

INTERNATIONAL SEARCH REPORT

(PCT Article 18 and Rules 43 and 44)

Applicant's or agent's file reference 2002CH011	FOR FURTHER ACTION see Notification of Transmittal of International Search Report (Form PCT/ISA/220) as well as, where applicable, item 5 below.	
International application No. PCT/IB 03/05096	International filing date (day/month/year) 11/11/2003	(Earliest) Priority Date (day/month/year) 13/11/2002
Applicant CLARIANT INTERNATIONAL LTD		

This International Search Report has been prepared by this International Searching Authority and is transmitted to the applicant according to Article 18. A copy is being transmitted to the International Bureau.

This International Search Report consists of a total of 4 sheets.

☒ It is also accompanied by a copy of each prior art document cited in this report.

1. Basis of the report

- a. With regard to the **language**, the international search was carried out on the basis of the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ the international search was carried out on the basis of a translation of the international application furnished to this Authority (Rule 23.1(b)).

- b. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international search was carried out on the basis of the sequence listing:

☐ contained in the international application in written form.

☐ filed together with the international application in computer readable form.

☐ furnished subsequently to this Authority in written form.

☐ furnished subsequently to this Authority in computer readable form.

☐ the statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.

☐ the statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished

2. ☐ **Certain claims were found unsearchable** (See Box I).

3. ☐ **Unity of invention is lacking** (see Box II).

4. With regard to the **title**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established by this Authority to read as follows:

5. With regard to the **abstract**,

☒ the text is approved as submitted by the applicant.

☐ the text has been established, according to Rule 38.2(b), by this Authority as it appears in Box III. The applicant may, within one month from the date of mailing of this international search report, submit comments to this Authority.

6. The figure of the **drawings** to be published with the abstract is Figure No.

☐ as suggested by the applicant.

☐ because the applicant failed to suggest a figure.

☐ because this figure better characterizes the invention.

☐ None of the figures.



PATENT COOPERATION TREATY

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INTERNATIONAL PRELIMINARY EXAMINATION REPORT
(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 2002CH011		FOR FURTHER ACTION See Notification of Transmittal of International Preliminary Examination Report (Form PCT/PEA/416)	
International application No. PCT/B 03/05096	International filing date (day/month/year) 11.11.2003 /	Priority date (day/month/year) 13.11.2002 /	
International Patent Classification (IPC) or both national classification and IPC C09B29/00			
Applicant CLARIANT INTERNATIONAL LTD et al. /			
<p>1. This international preliminary examination report has been prepared by this International Preliminary Examining Authority and is transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p><input type="checkbox"/> This report is also accompanied by ANNEXES, i.e. sheets of the description, claims and/or drawings which have been amended and are the basis for this report and/or sheets containing rectifications made before this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions under the PCT).</p> <p>These annexes consist of a total of sheets.</p>			
<p>3. This report contains indications relating to the following items:</p> <p>I <input checked="" type="checkbox"/> Basis of the opinion</p> <p>II <input type="checkbox"/> Priority</p> <p>III <input type="checkbox"/> Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</p> <p>IV <input type="checkbox"/> Lack of unity of invention</p> <p>V <input checked="" type="checkbox"/> Reasoned statement under Rule 66.2(a)(ii) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</p> <p>VI <input type="checkbox"/> Certain documents cited</p> <p>VII <input type="checkbox"/> Certain defects in the international application</p> <p>VIII <input type="checkbox"/> Certain observations on the international application</p>			
Date of submission of the demand 30.03.2004 /		Date of completion of this report 25.11.2004	
Name and mailing address of the International preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465		Authorized Officer Härtinger, S Telephone No. +49 89 2399-8289 	

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. PCT/IB 03/05096

I. Basis of the report

1. With regard to the **elements** of the international application (*Replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report since they do not contain amendments (Rules 70.16 and 70.17))*):

Description, Pages

1-33 as originally filed

Claims, Numbers

1-10 as originally filed

2. With regard to the **language**, all the elements marked above were available or furnished to this Authority in the language in which the international application was filed, unless otherwise indicated under this item.

These elements were available or furnished to this Authority in the following language: , which is:

- ☐ the language of a translation furnished for the purposes of the international search (under Rule 23.1(b)).
☐ the language of publication of the international application (under Rule 48.3(b)).
☐ the language of a translation furnished for the purposes of international preliminary examination (under Rule 55.2 and/or 55.3).

3. With regard to any **nucleotide and/or amino acid sequence** disclosed in the international application, the international preliminary examination was carried out on the basis of the sequence listing:

- ☐ contained in the international application in written form.
☐ filed together with the international application in computer readable form.
☐ furnished subsequently to this Authority in written form.
☐ furnished subsequently to this Authority in computer readable form.
☐ The statement that the subsequently furnished written sequence listing does not go beyond the disclosure in the international application as filed has been furnished.
☐ The statement that the information recorded in computer readable form is identical to the written sequence listing has been furnished.

4. The amendments have resulted in the cancellation of:

- ☐ the description, pages:
☐ the claims, Nos.:
☐ the drawings, sheets:

5. ☐ This report has been established as if (some of) the amendments had not been made, since they have been considered to go beyond the disclosure as filed (Rule 70.2(c)).

(Any replacement sheet containing such amendments must be referred to under item 1 and annexed to this report.)

6. Additional observations, if necessary:

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT**

International application No. **PCT/B 03/05096**

**V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability;
citations and explanations supporting such statement**

1. Statement

Novelty (N)	Yes: Claims	1-10
	No: Claims	
Inventive step (IS)	Yes: Claims	
	No: Claims	1-10
Industrial applicability (IA)	Yes: Claims	1-10
	No: Claims	

2. Citations and explanations

see separate sheet

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IB 03/05096

1. The invention relates to mono azo dyestuffs of the formula (I) according to claims 1-5, certain matter comprising the same (claims 6, 9-10) and the use of the same for dyeing (claims 7-8).

The relevant prior art has been cited in the European search report.

D1: DE-A-34 33 957; D2: JP-A-2002 309117; D3: EP-A-0 331 170;

D4: GB-A-1 413 315; D5: FR-A-2 387 267; D6: CH-A-584 747.

2. The claimed compounds represent a selection of what has been disclosed in D1 (cf. page 2 and group K in the meaning of the first formula given in line 15), D2 (cf. claim 1 and formula (1)), D3 (cf. formula (I) and claim 1) and D4 (cf. claim 1). However, in view of the proviso at the end of present claim 1, all of the specifically individualised embodiments of the prior art, have been excluded from the scope of the claim. Hence, the present compounds are considered to represent a novel selection with respect to D1-D4. As to D5, the amino pyrazole coupling component has not been individualised. As to D6, the benzothiazole component is absent.

In view of the above, the claimed matter appear to have met the novelty requirement of Art. 33(2) PCT.

3. Inventive step:

The technical problem underlying the invention is regarded to be the provision of dyestuff which is suitable for ink jet applications. D1 to D4 represent the most pertinent prior art. Starting from these documents, the skilled person is aware that the products obtained from the coupling of the 2-amino-benzothiazol with the N-phenyl-3-methyl-5-amino-pyrazoles result in valuable dyestuffs, since both components are well established coupling components. Thus, it is readily seen from D3, D4 and D6 that pyrazoles, which are substituted at the N-phenyl moiety, do not alter the colorant properties. Likewise, it is seen from D3, that the 3-methyl group sticking to the pyrazole ring may be altered, such that the compound 17 of D3 is an obvious equivalent to a compound falling under the present claim. That is to say the replacement of the ethyl group in the said compound 17 through a methyl group is an obvious further embodiment of what has already been specifically disclosed in D3. Likewise, starting from the substituted pyrazoles coupling components of D3, D4 and D6 the skilled person would have expected the coupling products with 2-amino-benzothiazoles to be likewise suitable dyestuffs, all the more as D5 stipulates that the coupling with ordinary amino-pyrazoles result in this kind of dyestuff (see page 1, lines 5-20). It is therefore not

**INTERNATIONAL PRELIMINARY
EXAMINATION REPORT - SEPARATE SHEET**

International application No. PCT/IB 03/05096

feasible in how far the present proviso, which renders the claims novel, could also contribute to the inventiveness of the presently selected products. In the absence of any technical effect, which immediately is contributable to the selected portion (i.e. the requirement of R5-R9 having at least one non-hydrogen substituent), the claimed matter does not appear to meet the requirements of Art. 33(3) PCT.

INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 03/05096

A. CLASSIFICATION OF SUBJECT MATTER
 IPC 7 C09B29/00 C09B29/36

According to International Patent Classification (IPC) or to both national classification and IPC

B. FIELDS SEARCHED

Minimum documentation searched (classification system followed by classification symbols)

IPC 7 C09B

Documentation searched other than minimum documentation to the extent that such documents are included in the fields searched

Electronic data base consulted during the international search (name of data base and, where practical, search terms used)

EPO-Internal, PAJ, WPI Data, BEILSTEIN Data, CHEM ABS Data

C. DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
X	DE 34 33 957 A (BASF AG) 27 March 1986 (1986-03-27) page 2, line 1 - line 15; example 34	1-10
P,X	PATENT ABSTRACTS OF JAPAN vol. 2003, no. 02, 5 February 2003 (2003-02-05) -& JP 2002 309117 A (MITSUBISHI CHEMICALS CORP), 23 October 2002 (2002-10-23) abstract page 7	1-10
X	EP 0 331 170 A (FUJI PHOTO FILM CO LTD) 6 September 1989 (1989-09-06) page 6, line 10 - line 15; claims page 7, line 30 - line 40 ----- -/--	1-10



Further documents are listed in the continuation of box C.



Patent family members are listed in annex.

* Special categories of cited documents :

- *A* document defining the general state of the art which is not considered to be of particular relevance
- *E* earlier document but published on or after the international filing date
- *L* document which may throw doubts on priority claim(s) or which is cited to establish the publication date of another citation or other special reason (as specified)
- *O* document referring to an oral disclosure, use, exhibition or other means
- *P* document published prior to the international filing date but later than the priority date claimed

- *T* later document published after the international filing date or priority date and not in conflict with the application but cited to understand the principle or theory underlying the invention
- *X* document of particular relevance; the claimed invention cannot be considered novel or cannot be considered to involve an inventive step when the document is taken alone
- *Y* document of particular relevance; the claimed invention cannot be considered to involve an inventive step when the document is combined with one or more other such documents, such combination being obvious to a person skilled in the art.
- *&* document member of the same patent family

Date of the actual completion of the international search

5 February 2004

Date of mailing of the international search report

13/02/2004

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INTERNATIONAL SEARCH REPORT

International Application No

PCT/IB 03/05096

C.(Continuation) DOCUMENTS CONSIDERED TO BE RELEVANT

Category *	Citation of document, with indication, where appropriate, of the relevant passages	Relevant to claim No.
Y	GB 1 413 315 A (HOECHST AG) 12 November 1975 (1975-11-12) page 3, line 26 - line 30; claims 1-7; example 12 -----	1-10
Y	FR 2 387 267 A (ICI LTD) 10 November 1978 (1978-11-10) page 1, line 5 - line 20; claims 1,2 -----	1-10
Y	CH 584 747 A (CIBA GEIGY AG) 15 February 1977 (1977-02-15) example 3 -----	1-10

INTERNATIONAL SEARCH REPORT

Information on patent family members

International Application No

PCT/IB 03/05096

Patent document cited in search report		Publication date	Patent family member(s)	Publication date
DE 3433957	A	27-03-1986	DE 3433957 A1	27-03-1986
JP 2002309117	A	23-10-2002	NONE	
EP 0331170	A	06-09-1989	JP 1225592 A	08-09-1989
			JP 2069771 C	10-07-1996
			JP 7094182 B	11-10-1995
			DE 68904211 D1	18-02-1993
			DE 68904211 T2	06-05-1993
			EP 0331170 A2	06-09-1989
			US 4981837 A	01-01-1991
GB 1413315	A	12-11-1975	DE 2161761 A1	14-06-1973
			BE 792586 A1	12-06-1973
			CH 568364 A5	31-10-1975
			FR 2163502 A1	27-07-1973
			IN 138883 A1	10-04-1976
			IT 971721 B	10-05-1974
			JP 896336 C	14-02-1978
			JP 48066621 A	12-09-1973
			JP 52022003 B	14-06-1977
FR 2387267	A	10-11-1978	BE 865726 A1	05-10-1978
			CH 631198 A5	30-07-1982
			FR 2387267 A1	10-11-1978
			IT 1096171 B	17-08-1985
CH 584747	A	15-02-1977	CH 584747 A5	15-02-1977